

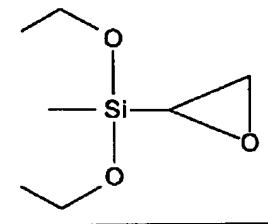
2771-665

Section II. (Amendment to the Claims)

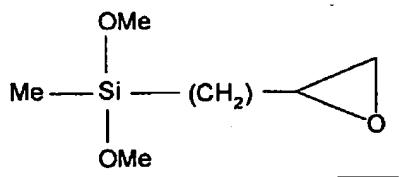
Please amend claims 1, 11, 12, 19, 22, 40, 50 and 51, withdraw claims 18-21, and cancel claims 2, 4-10, 13, 30, 32-34, 41, 43-49 and 52, as set out below in the listing of claims 1-66 of the application.

1. (Currently Amended) An organosilicon precursor for vapor deposition of a low k, high strength dielectric film, wherein the precursor comprises at least one silicon-pendant oxiranyl functionality and is selected from the group consisting of compounds of Formula (A) and Formula (B):

Formula (A), $\text{Me}(\text{EtO})_2\text{SiCHCH}_2\text{O}$:



Formula (B), $\text{Me}(\text{MeO})_2\text{SiCH}_2\text{CHCH}_2\text{O}$:



2.-10. (Cancelled)

11. (Currently Amended) The organosilicon precursor of claim 1+0, having Formula (A).

2771-665

12. (Currently Amended) The organosilicon precursor of claim 1-10, having Formula (B).

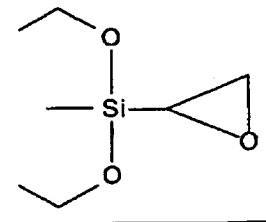
13.-17. (Cancelled)

18. (Withdrawn) The organosilicon precursor of claim 1, wherein the precursor further comprises TMCTS.

19. (Withdrawn) An organosilicon precursor composition for vapor deposition of a low k , high strength dielectric film, wherein the composition comprises:

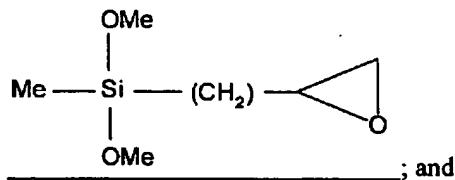
(A) an organosilicon precursor comprising at least one silicon-pendant oxiranyl functionality, wherein said organosilicon precursor is selected from the group consisting of compounds of Formula (A) and Formula (B):

Formula (A), $\text{Me}(\text{EtO})_2\text{SiCHCH}_2\text{O}$:



Formula (B), $\text{Me}(\text{MeO})_2\text{SiCH}_2\text{CHCH}_2\text{O}$:

2771-665



(B) a porogen.

20. (Withdrawn) The organosilicon precursor composition of claim 19, wherein said porogen is selected from the group consisting of compounds of the formula (X):



wherein:

each of R^{10} , R^{11} , R^{12} and R^{13} can be the same as or different from one another and each is independently selected from the group consisting of H, C₁-C₈ alkyl, C₁-C₈ alkoxy, C₆-C₁₀ cycloalkyl, and C₆-C₁₀ aryl, with the proviso that at least one of R^{10} , R^{11} , R^{12} and R^{13} is C₁-C₈ alkoxy.

21. (Withdrawn) The organosilicon precursor composition of claim 19, wherein said porogen is selected from the group consisting of:

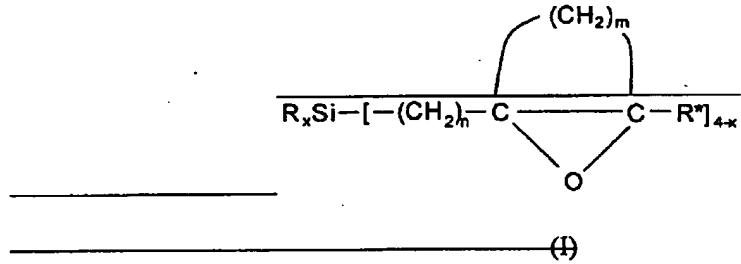


2771-665

^tBuSi(OCH₃)₂H^tBuSi(OC₂H₅)₂H(C₆H₅)Si(OCH₃)₂H(C₆H₅)Si(OC₂H₅)₂H(C₆H₁₁)Si(OCH₃)₂H(C₆H₁₁)Si(OC₂H₅)₂H('Bu)(CH₃)Si(OCH₃)₂('Bu)(CH₃)Si(OC₂H₅)₂(C₆H₅)(CH₃)Si(OCH₃)₂(C₆H₅)(CH₃)Si(OC₂H₅)₂(C₆H₁₁)(CH₃)Si(OCH₃)₂(C₆H₁₁)(CH₃)Si(OC₂H₅)₂

wherein 'Bu is tertiary butyl.

22. (Withdrawn) A method of forming an oxiranylsilane compound of formula (I):



wherein:

m is an integer having a value of 0 to 6, inclusive;

n is 0 or 1;

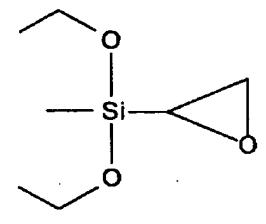
x is an integer having a value of 0 to 3, inclusive; and

2771-665

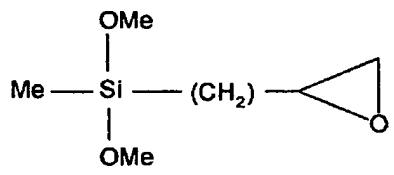
each R and R' can be the same as or different from one another and each is independently selected from the group consisting of H, C₁-C₈ alkyl, C₁-C₈ fluoroalkyl, C₁-C₈ alkoxy, C₆-C₁₀ cycloalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₂-C₆ vinyl, and C₃-C₆ allyl,

selected from the group consisting of compounds of Formula (A) and Formula (B):

Formula (A), Me(EtO)₂SiCHCH₂O :



Formula (B), Me(MeO)₂Si CH₂CHCH₂O :



said method comprising oxidizing a corresponding vinylsilane or allylsilane compound.

23. (Withdrawn) The method of claim 22, wherein the step of oxidizing comprises reaction with an oxidizing agent that is inert in relation to Si-OR fragments.

2771-665

24. (Withdrawn) The method of claim 23, wherein said oxidizing agent comprises an agent selected from the group consisting of meta-Cl(C₆H₄)C(O)OOH, 'BuOOH, wherein 'Bu is tertiary butyl, and Me₃OOSiMe₃, wherein Me is methyl.

25. (Withdrawn) The method of claim 23, wherein said oxidizing agent comprises meta-Cl(C₆H₄)C(O)OOH.

26. (Withdrawn) The method of claim 22, wherein said step of oxidizing is conducted in a non-flammable solvent medium.

27. (Withdrawn) The method of claim 26, wherein said non-flammable solvent medium comprises dichloromethane.

28. (Withdrawn) The method of claim 26, wherein said non-flammable solvent medium comprises chloroform.

29. (Withdrawn) The method of claim 22, wherein said oxiranylsilane compound is Me(EtO)₂SiCHCH₂O.

30. (Cancelled)

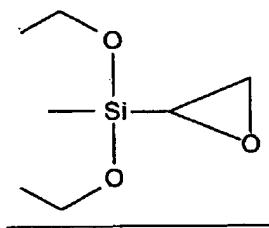
31. (Withdrawn) The method of claim 22, wherein said oxiranylsilane is Me(MeO)₂SiCH₂CHCH₂O.

2771-665

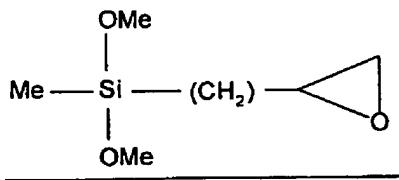
32.-39. (Cancelled)

40. (Withdrawn) A method of forming a low k , high strength dielectric film on a substrate, comprising vapor depositing said film on the substrate from an organosilicon precursor, wherein said precursor comprises comprising at least one silicon-pendant oxiranyl functionality and is selected from the group consisting of compounds of Formula (A) and Formula (B);

Formula (A), $\text{Me}(\text{EtO})_2\text{SiCHCH}_2\text{O}$:



Formula (B), $\text{Me}(\text{MeO})_2\text{SiCH}_2\text{CHCH}_2\text{O}$:



41.-49 (Cancelled)

50. (Withdrawn) The method of claim 40 49, wherein the precursor comprises a compound of Formula (A).

2771-665

51. (Withdrawn) The method of claim 40 49, wherein the precursor comprises a compound of Formula (B).

52-56. (Cancelled)

57. (Withdrawn) The method of claim 40, wherein said vapor depositing step comprises use of a porogen in combination with said precursor.

58. (Withdrawn) The method of claim 57, wherein said porogen is selected from the group consisting of compounds of the formula (X):



wherein:

each of R¹⁰, R¹¹, R¹² and R¹³ can be the same as or different from one another and each is independently selected from the group consisting of H, C₁-C₈ alkyl, C₁-C₈ alkoxy, C₆-C₁₀ cycloalkyl, and C₆-C₁₀ aryl, with the proviso that at least one of R¹⁰, R¹¹, R¹² and R¹³ is C₁-C₈ alkoxy.

59. (Withdrawn) The method of claim 57, wherein said porogen is selected from the group consisting of:



2771-665

$$(C_6H_5)_2Si(OC_2H_5)_2$$
$$(C_6H_{11})_2Si(OCH_3)_2$$
$$(C_6H_{11})_2Si(OC_2H_5)_2$$
$$'BuSi(OCH_3)_2H$$
$$'BuSi(OC_2H_5)_2H$$
$$(C_6H_5)Si(OCH_3)_2H$$
$$(C_6H_5)Si(OC_2H_5)_2H$$
$$(C_6H_{11})Si(OCH_3)_2H$$
$$(C_6H_{11})Si(OC_2H_5)_2H$$
$$('Bu)(CH_3)Si(OCH_3)_2$$
$$('Bu)(CH_3)Si(OC_2H_5)_2$$
$$(C_6H_5)(CH_3)Si(OCH_3)_2$$
$$(C_6H_5)(CH_3)Si(OC_2H_5)_2$$
$$(C_6H_{11})(CH_3)Si(OCH_3)_2$$
$$(C_6H_{11})(CH_3)Si(OC_2H_5)_2$$
wherein '*Bu* is tertiary butyl.

60. (Withdrawn) The method of claim 40, wherein said vapor depositing step comprises chemical vapor deposition.

61. (Withdrawn) The method of claim 40, wherein said vapor depositing step comprises plasma-enhanced chemical vapor deposition.

2771-665

62. (Withdrawn) The method of claim 40, wherein said vapor depositing step comprises flowing said precursor to a vapor deposition locus in a carrier gas.

63. (Withdrawn) The method of claim 62, wherein said carrier gas comprises carbon dioxide.

64. (Withdrawn) The method of claim 62, wherein the precursor and the carrier gas are the only potential sources of oxygen at the vapor deposition locus.

65. (Withdrawn) The method of claim 40, wherein the precursor is selected from the group consisting of:

Me(EtO)₂SiCHCH₂O;

Me(MeO)₂Si CH₂CHCH₂O; and

Me₂Si (CHCH₂O)₂.

66. (Withdrawn) The method of claim 40, wherein the precursor further comprises TMCTS.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.